OBSERVATIONS ON *DIOCTRIA COTHURNATA* MG. (DIPTERA: ASILIDAE) IN DORSET

ALAN STUBBS

181 Broadway, Peterborough PE1 4DS.

FIVE species of the robber fly genus *Dioctria* are known in Britain and a basic statement on the ecology and distribution can be made for four of them. The enigmatic species is *D. cothurnata* for which little can be said of the sparse but widespread records. Thanks to the discovery of this species at several localities in west-Dorset by Martin Drake in mid-July 1987 it has been possible to take a small step towards further understanding the ecology of this species.

My only previous encounter with *cothurnata* was along the Radnor/Montgomery border where a male was taken 2½m north-east of Pant-y-dwr on 26th July 1975. This rather unlikely spot at 300m was a sheltered glade with a stream (Rhydyclwydau Brook), flanked by immature conifer plantation. This perhaps speaks little for the natural habitat in Wales and my wide travels in that country have not revealed other sites for the species.

Dioctria cothurnata was found at Mapperton, Dorset, where Martin Drake had taken a series of rapid sweep samples at various places along the various spring fed streams, with alder lined banks and alder carr widespread. He also sampled a number of other valleys and found *cothurnata* at Stones Common (Lower Kingcombe) and West Milton. The initial indication was that the robber fly is associated with woodland margins in wet valley bottoms but there had not been time to define more specifically the circumstances of capture. I succeeded in finding *cothurnata* at all three sites, though only at West Milton did I see the insect at the same location as Martin Drake within a site.

Mapperton

My own visit to Mapperton on 21st June 1989 led to a small glade where a large sallow had fallen over within valley side alder seepage carr. Soon I saw a male hovering, with occasional forward movement, among tall lush leaves of *Ranunculus repens*. It was only visible fleetingly, being so heavily screened beneath the leaves. There was a small prey item being carried so the robber fly was netted with a deep sweeping stroke — the *Dioctria* was successfully caught but the prey item was unfortunately not in the net. Regrettably this was the only individual seen here with prey but the circumstances suggest that mate seeking is pursued in this very secretive fashion. This observation was made where the *Ranunculus* was at the edge of some *Ribes rubra* close to an *Alnus,* the whole in full sunlight at about 12.00 BST on a hot sunny day. The related flora was *Chrysoplenium oppositifolium* together with nearby patches of *Caltha palustris* and *Allium*

ursinum, growing on peat that may well have been a metre or more thick. If it had not been for the long drought of previous months this would have been a very wet situation, though at this time only very moist. To the uphill side there was a moist sandy bank with *Carex remota* and *Dryopteris dilatata* under alder and hazel, then a cattle grazed meadow.

About an hour was spent here searching and sweeping in the clearing, in dappled light and in denser shade under alders, without further encounter with *cothurnata.* Then, for less than a minute, two more males were seen on *Ranunculus* leaves and flying in ichneumon-like fashion at the edge of the same sunny clump of *Ribes.* Also a female was seen at rest low on a leaf in dappled light, its position screened by higher herbage. Eventually a male was swept in dappled light in a similar area of carr about 50 metres away.

Another location with *D. cothurnata* was found when a female was seen sitting on *Urtica dioica* leaves, fairly well hidden from view. Though apparently not disturbed by my presence, after a while it flew leisurely deeper into the nettle patch. A female was again seen about four metres away under similar circumstances and another then came out onto exposed leaves, before flying off hurriedly (almost certainly disturbed by my movement). This nettle patch contained *Galium aparine* and some *Equisetum telmateia.* It was situated in a sunny position on the valley floor adjacent to an *Alnus* lined stream, with an uphill narrow fringe of *Holcus lanatus* before grading into varied dry grassland.

West Milton

On 22nd June the morning was spent in West Milton Valley. At about 11 am BST a female *Dioctria rufipes* (Deg.) was seen perched on a leaf about 60cm above ground. This observation was at a sunny patch of brambles, *Rubus fruticosus* agg., on a dry bank just above seepage. The thought that a neat ecological difference between species was thereby portrayed was soon dashed when five metres further along the same bramble covered bank there was a female *D. cothurnata* in an almost identical situation. The latter female was carrying prey. It soon flew leisurely down to sit on a *Ranunculus repens* leaf where it was netted together with its prey item. (To my great disappointment this prey was subsequently lost but it seemed to be a small braconid.)

The location was a sun trap glade with alder seepage peat extending below and to either side. The bramble patch had some *Urtica dioica,* with an outer fringe below of *Holcus lanatus.* The *Ranunculus* was the dominant herb on wet seepage. The observations were made about five metres from the nearest alders.

Shortly after the encounter with the above female, a male was seen in about the same position on the brambles, though only 30cm above ground. It flew down to the *Ranunculus repens* leaves and after leisurely moving position over a total distance of about seven metres, within the sun, it rapidly flew off.

Stones Common

In the afternoon of 22nd June a visit was made to the Stones Common area of the Kingcombe nature reserve of the Dorset Wildlife Trust. *Dioctria cothurnata* was not seen at an alder lined stream across a field where Martin Drake had previously reported it. Away from the stream I was sweeping fairly casually at 3.30 pm when I noticed a female *D. cothurnata* just as the sweep net captured it. On confirming identification the insect was released so the subsequent erratic sightings may have all been of the same fly.

This situation was in a north-east facing hollow in the angle between two alder hedgerows. There were some small clumps of *Juncus effusus* among *Glyceria fluitans* and local *Juncus articulatus,* with areas of *Ranunculus repens* and *Holcus lanatus.* About half the vegetation was in the sun and all observations were made in this sector, about 3 - 5 metres from the nearest alders.

The female was swept from *Juncus effusus* about 4 - 5cm above ground and on another occasion one was at a similar height. For the most part they settled within 10cm of the ground, variously sitting on *Juncus* or *Ranunculus* leaves. The flight was leisurely or moderately fast, and on one occasion involved flying fairly quickly through a clump of *Juncus effusus* leaves about half way up as if there were no obstacles. If disturbed, departure was swift, usually impossible to trace beyond the first few yards. In all there were perhaps five encounters though only one insect was seen at any one time.

Discussion

It is confirmed that there is a strong association with woodland and woodland margin habitat on very wet valley peat mire. The only other British asilid that one might typically expect in such situations is *Dioctria rufipes* whose peak emergence is much earlier. Other robber flies (such as *Leptarthrus brevirostris* (Mg.) and *Machimus atricapillus* Fln. can be found in wet places but these can persist in entirely dry habitat and may be best interpreted as visitors.

These observations in west-Dorset show a particular association with *Ranunculus repens* and related plant communities on wet seepage peat in the proximity of *Alnus.* This habitat is widespread in Britain and is strongly represented in some districts. I have swept this sort of habitat in many situations whilst recording craneflies yet have not found *cothurnata* in such situations before. Martin Drake obtained his specimens by general sweeping without particular attention to robber flies. Either the area is particularly favourable for the species or his technique of sweeping is in some subtle fashion different from mine — it is not uncommon for different people to find very different faunas by sweeping. Our conclusion is that this area of Dorset has relatively good populations of the robber fly.

There is the possibility that weather conditions affect the location of the adults, giving a misleading impression of the likely breeding site. Though 1987 had a cool summer, Martin Drake's observations were made during a hot sunny period. My visit was in the dry sunny summer of 1989 so apart from a longer build up of drought in 1989, the two sets of observations were made under somewhat similar conditions. In hot dry weather insects might head for cool moist situations. However, it seems reasonable to infer that the habitat association is normal, though still saying nothing firm as regards indicating the situations where larvae develop. *Dioctria* lay eggs whilst in flight but they could choose rather different habitat for this purpose.

The prey is typical of *Dioctria,* which are specialists on parasitic Hymenoptera. In common with other members of the genus it is probable that other small insects are included in the adult diet. The behaviour of the species remains an enigma. On my first day's observations the species was maddeningly secretive and elusive, easily accounting for the rarity of records. On the next day, when the weather was not markedly different, the species was out in full view showing a far more visible life style. Even in the latter mode it may be easy to overlook but it ought to be intercepted and recorded with moderate success.

Hopefully these observations will provide a stimulus to finding out more about this species.

Acknowledgements

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***Eulamprotes phaeella* Heckford & Langmaid (Lep.: Gelechiidae) in Kent**

At Holly Hiil near Snodland, Kent, on the night of 11th July 1990, I took an *Eulamprotes* species at m.v. light which did not match *E. atrella* which appeared at the same time. Later examination of the genitalia, with the help of Mr P. Jewess, indicated that the specimen was of the recently described species *Eulamprotes phaeella.*

This species was taken in Kent in 1937 by L.T. Ford at Bexley, although he had identified it as *Aproaerema anthylidella* (Heckford, *Ent. Gaz.* **42**: 188). This current specimen is certainly the most recent, and the most easterly record so far for Kent. No doubt, this species, if searched for, will be shown to be widespread in Kent. For a description of this species see Heckford, R.J. & Langmaid, J.R. (1988) *Ent. Gaz.* **39**: 1-11. *Phaeella* is illustrated in colour by Sokoloff, P.A. & Bradford, E.S. (1990) *Br. J. ent. nat. Hist.* 3(1) 23-28.— D. O'Keeffe, 50 Hazelmere Road, Petts Wood, Kent BR5 1PD.